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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/940,076 | 08/27/2001 | Andrew Eric Carlson | 09712-119001/Z-265 | 3026 |

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EXAMINER

LYONS, MICHAEL A

ART UNIT PAPER NUMBER

2877

DATE MAILED: 06/02/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|--------------------------------------|---------------------------------------------|-----------|
| Office Action Summary | Application No. 09/940,076 | Applicant(s) CARLSON, ANDREW ERIC | |
| | Examiner Michael A. Lyons | Art Unit 2877 | <i>AW</i> |

-- Th MAILING DATE of this communication app ars on th cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-32 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 21-32 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☒ The drawing(s) filed on 24 February 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

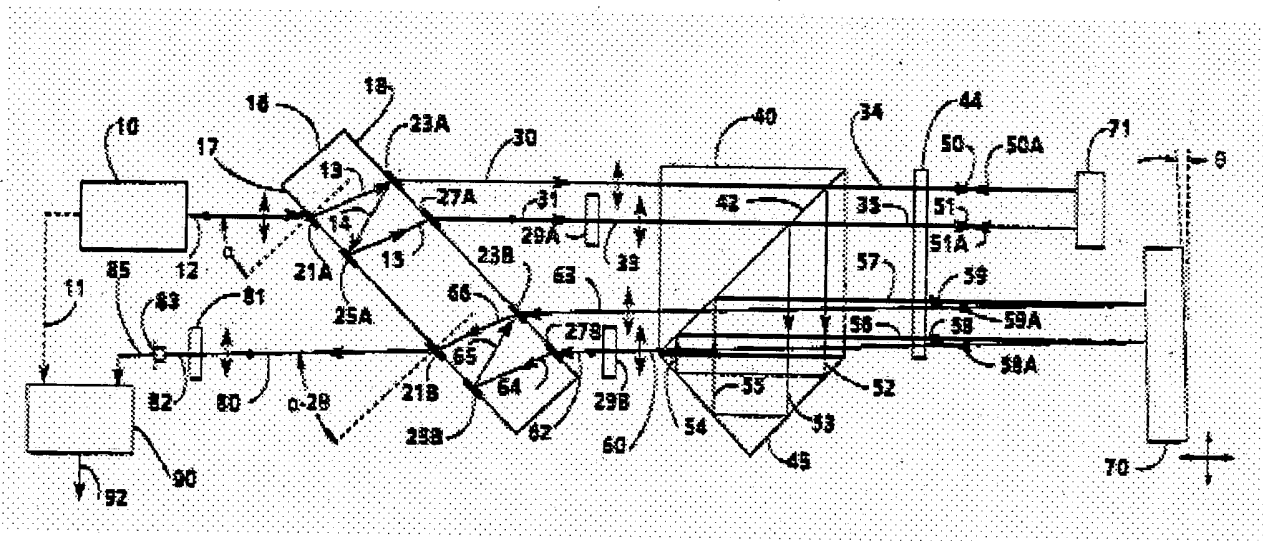
- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sommargren (4,746,216).



Regarding claims 21 and 32, Sommargren (Fig. 1) discloses a tilted shear plate 16 with multiple output ports (23A, 27A) that transmit a corresponding intermediate beam (30, 31) from input beam 13, and a polarizing beam splitter 40 with polarizing beam splitting interface 42 to separate each intermediate beam into a reference and a measurement beam. This apparatus, however, does not disclose an integral block containing the output ports and the polarizing beam splitter integral to one another.

The separate shear plate and polarizing beam splitter of Sommargren, while separate, are the same apparatus with the same functionality as the combined block in the instant application. Making the two separate elements integral to one another, that is, attached in the same overall block, would maintain the functionality of the Sommargren device; therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the shear plate and beam splitter of Sommargren into a single, integral device.

As for claim 22, output port 23A reflects a portion of input beam 13 to intermediate beam 14 inside the shear plate.

As for claim 23, output port 23A has a polarization coating on it, separating the input beam by polarization. As a result, the intensity of the resulting intermediate beams remains constant.

As for claims 24-26, the output port 23A causes the input beam 13 to be split into two portions, portion 14 remaining inside the shear plate, with portion 30 exiting the plate for the beam splitter.

As for claim 27, the measurement and reference beams from a polarizing beam splitter will have orthogonal polarizations from the function of the beam splitter.

As for claim 28, Sommargren discloses corner reflector 45.

As for claim 29, the shear plate has a coating 25A for reflecting beam 14 towards the next output port 27A.

As for claim 30, Sommargren discloses reference plate 71, measurement plate 70, and a quarter-wave plate 44 positioned between the beam splitter and the reference and measurement plates.

As for claim 31, the normal operation of the beam splitter will allow for the recombination of measurement and reference beams. Sommargren also discloses a single retro-reflector as corner reflector 45, but not the plurality of retro-reflectors as claimed. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to duplicate the single corner reflector in order to produce a plurality of them, since it has been held that the mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. V. Bemis Co.*, 193 USPQ 8.

Response to Arguments

Applicant's arguments filed March 15, 2004 have been fully considered but they are not persuasive. The applicant argues that the device of Sommargren does not teach or suggest "a polarizing beam splitting interface ... positioned relative to the common face of the block to separate each intermediate beam into a measurement component and a reference component having different polarizations". The beamsplitter itself does not generate a reference beam and a measurement beam of different polarizations. However, as argued above: "The separate shear plate and polarizing beam splitter of Sommargren, while separate, are the same apparatus with the same functionality as the combined block in the instant application. Making the two separate elements integral to one another, that is, attached in the same overall block, would maintain the functionality of the Sommargren device." Also, even though there is not an explicit reference component and measurement component of different polarizations, the light beams eventually reflect off both the reference and measurement objects as in the instant application and interfere with one another to generate the desired measurements, making the overall function of each

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device equivalent. The above arguments also cover the positioning of the elements in the device, as they are all positioned relative to one another.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A. Lyons whose telephone number is 571-272-2420. The examiner can normally be reached on Monday thru Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Frank G Font can be reached on 571-272-2415. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MAL

May 27, 2004

A handwritten signature in black ink, appearing to read 'Samuel A. Turner', is written over a horizontal line.

Samuel A. Turner
Primary Examiner